5.0 ENVIRONMENTAL IMPACTS

Chapter 5 describes the environmental consequences of the Proposed Action to construct and operate the Modern Pit Facility at the Los Alamos Site, Nevada Test Site, Pantex Site, Savannah River Site, and the Carlsbad Site in addition to the Technical Area (TA)-55 Upgrade Alternative at LANL, and the No Action Alternative. Chapter 5 also describes the impacts common to all alternatives, cumulative impacts, and resource commitments.

5.1 INTRODUCTION

The environmental impacts analysis addresses all potentially affected areas in a manner commensurate with the importance of the effects on each area. The methodologies used for preparing the assessments for the resource areas are discussed in Appendix F of this Modern Pit Facility (MPF) Environmental Impact Statement (EIS). The specific methodologies used to assess human health, accidents, and transportation are presented in Appendices B, C, and D, respectively.

Chapter 5 is organized by major sections devoted to each site. Section 5.2 discusses the environmental consequences at the Los Alamos National Laboratory (LANL). LANL is involved in the No Action Alternative, MPF Alternative and the TA-55 Upgrade Alternative. The TA-55 Upgrade Alternative occurs only at LANL. Sections 5.3, 5.4, 5.5, and 5.6 discuss the environmental impacts of the No Action Alternative and the impacts of the MPF Alternative at the Nevada Test Site (NTS), Pantex Site (Pantex), Savannah River Site (SRS), and the Carlsbad Site, respectively.

The MPF Alternative at each site includes a discussion of the construction impacts for three plant sizes producing 125 pits per year (ppy), 250 ppy, and 450 ppy. The MPF Alternative at each site also includes a discussion of the operations impacts for the three different production capacities 125 ppy, 250 ppy, and 450 ppy.

A contingency or surge use of two-shift operations for emergencies is also analyzed. This would raise the output levels of the three sized plants to almost twice their single-shift capacities. The surge output of the 125 ppy plant would be approximately the same and have the same environmental impacts as the 250 ppy single-shift scenario. Likewise, the surge output of the 250 ppy plant would be approximately the same and have the same environmental impacts as the 450 ppy single-shift scenario. The impacts of the surge output of the 450 ppy plant are provided qualitatively in a sensitivity analysis at the end of each resource discussion.

Additional sections in Chapter 5 present issues common to all or some of the alternatives. These sections include:

Section 5.7, Common Impacts—Discusses impacts of a Beryllium Facility, decontamination and decommissioning of the MPF, and the impacts due to the reduction in the current production of pits at LANL due to the construction and operations of the MPF.

Section 5.8, Cumulative Impacts—Discusses the potential cumulative impacts that could result at each site as a result of the construction and operations of the MPF.

Sections 5.9, 510, and 5.11—Discusses the resources commitments required for the Proposed Action including unavoidable adverse impacts, the relationship between short-term and long-term use, and irreversible/irretrievable commitment of resources.

5.2 LOS ALAMOS SITE

The following sections discuss the environmental impacts associated with the No Action Alternative, the MPF Alternative, and the TA-55 Upgrade Alternative at LANL. The environmental impacts are presented below for each of the following environmental resource areas: land use, visual resources, site infrastructure, air quality and noise, water resources, geology and soils, biological resources, cultural and paleontological resources, socioeconomics, human health and safety, accidents, environmental justice, transportation, and waste management.

5.2.1 Land Use and Visual Resources

5.2.1.1 Land Use

This section presents a discussion of the environmental impacts associated with the No Action Alternative, the MPF Alternative, and the TA-55 Upgrade Alternative.

The proposed concept for MPF is a multibuilding aboveground configuration. There would be three separate process buildings: Material Receipt, Unpacking, and Storage; Feed Preparation; and Manufacturing. They would be flanked by a number of smaller support facilities which would include: the Analytical Support Building, Production Support Building, Process Building Entry Control Facilities, Operations Support Facilities, Engineering Support Facility, Perimeter Intrusion Detection and Assessment System (PIDAS), Safe Havens, Standby Diesel Generator Buildings, Diesel Fuel Storage Tank, Chillers/Chemical Feed and Chilled Water Pump Buildings, Cooling Towers, Alternate Power Electrical Transformers, Truck Loading Docks, Liquid Nitrogen/Argon Storage Tanks, Chemical Storage Tanks, Bottled Gas Storage and Metering Buildings, Heating Ventilation, and Air Conditioning (HVAC) Exhaust Stacks, Waste Staging/Transuranic (TRU) Packaging Building, Commodities Warehouse, Roads and Parking Areas, and a Runoff Detention Area. In addition to these structures, a Construction Laydown Area and a Concrete Batch Plant would be built for the construction phase only. Upon construction completion, they would be removed and the area would be returned to its original state.

All buildings would be either one or two stories. The site would require two HVAC exhaust stacks; the tallest, standing 30 m (100 ft), would be located inside the PIDAS. Facility exhausts would be HEPA-filtered prior to discharge through the stacks.

Under the multibuilding configuration, production rates would dictate the size of the facilities proposed. The three potential facility capacities are 125, 250, and 450 ppy. Required acreage for each of the facility capacities during construction and operations is presented in